

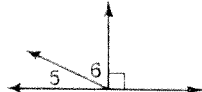
2-8 Skills Practice**Proving Angle Relationships**

Find the measure of each numbered angle and name the theorems that justify your work.

1. $m\angle 2 = 57$



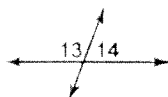
2. $m\angle 5 = 22$



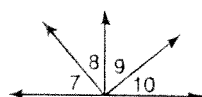
3. $m\angle 1 = 38$



4. $m\angle 13 = 4x + 11$,
 $m\angle 14 = 3x + 1$



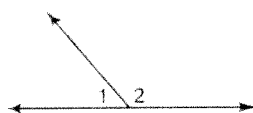
5. $\angle 9$ and $\angle 10$ are
complementary.
 $\angle 7 \cong \angle 9$, $m\angle 8 = 41$



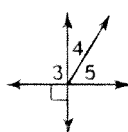
6. $m\angle 2 = 4x - 26$,
 $m\angle 3 = 3x + 4$



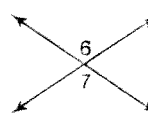
7. $m\angle 1 = x + 10$
 $m\angle 2 = 3x + 18$



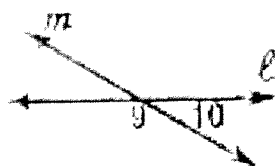
8. $m\angle 4 = 2x - 5$
 $m\angle 5 = 4x - 13$



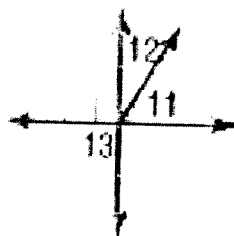
9. $m\angle 6 = 7x - 24$
 $m\angle 7 = 5x + 14$



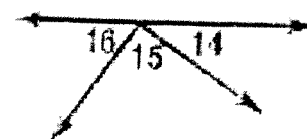
10. $m\angle 9 = 141 + x$
 $m\angle 10 = 25 + x$



11. $m\angle 11 = x + 40$
 $m\angle 12 = x + 10$
 $m\angle 13 = 3x + 30$



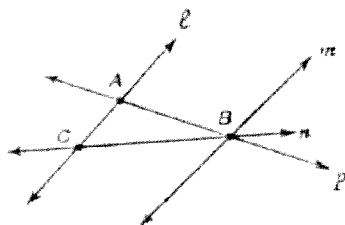
12. $m\angle 14 = x + 25$
 $m\angle 15 = 4x + 50$
 $m\angle 16 = x + 45$



Quiz #3 2-5 to 2-8

Short Answer

1. Determine the point of intersection of lines ℓ and p .



2. Complete the following statement. If $AB = BC$ and A , B , and C are collinear, then B is the _____ of AC .

Name the definition, property, postulate, or theorem that justifies each statement.

3. If $x = 2$, then $2 = x$.
4. If $x + 3 = y$, then $x = y - 3$.
5. Determine whether the conjecture is *true* or *false*.

Given: Two planes intersect.

Conjecture: The planes can intersect only at one point.

6. Determine whether the conjecture is *true* or *false*.

Given: Three noncollinear points.

Conjecture: There is exactly one plane.

7. Determine whether the conjecture is *true* or *false*.

Given: Two points lie in a plane.

Conjecture: The entire line containing those points lies in the plane.

Name the definition, property, postulate, or theorem that justifies each statement.

8. If $\overline{DE} \cong \overline{FG}$, then $\overline{FG} \cong \overline{DE}$.
9. If $XY = WZ$, then $XY + TU = WZ + TU$.
10. If $\angle 1$ and $\angle 2$ form a linear pair, then $m\angle 1 + m\angle 2 = 180$.

11. If $\angle 1$ and $\angle 2$ are vertical angles, then $\angle 1 \cong \angle 2$.
12. If $m\angle A = 5x - 12$, $m\angle B = 2x + 18$, $\angle A$ and $\angle C$ are supplementary, and $\angle B$ and $\angle C$ are supplementary, find x .
13. Fill in the missing steps and justifications for each step in finding the value of x .

Statements	Reasons
1. $4x + 8 = 36$	1.
2.	2. Subtraction Property
3. $4x = 28$	3.
4.	4. Division Property
5. $x = 7$	5.

14. Given: $\overline{SU} \cong \overline{LR}$
 $\overline{TU} \cong \overline{LN}$
 Prove: $\overline{ST} \cong \overline{NR}$

Proof:

Statements	Reasons
a. $\overline{SU} \cong \overline{LR}, \overline{TU} \cong \overline{LN}$	a.
b.	b. Definition of \cong segments
c. $SU = ST + TU$ $LR = LN + NR$	c.
d. $ST + TU = LN + NR$	d.
e. $ST + LN = LN + NR$	e.
f. $ST + LN - LN = LN + NR - LN$	f.
g.	g. Substitution
h. $\overline{ST} \cong \overline{NR}$	